

1000

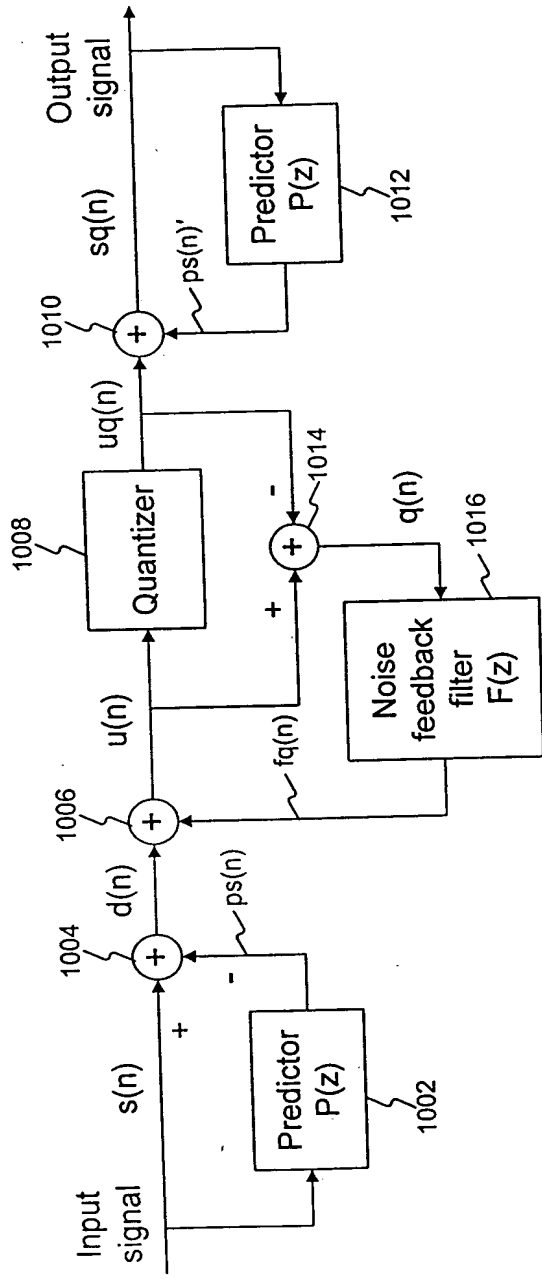


Figure 1 Conventional Noise Feedback Coding

1050

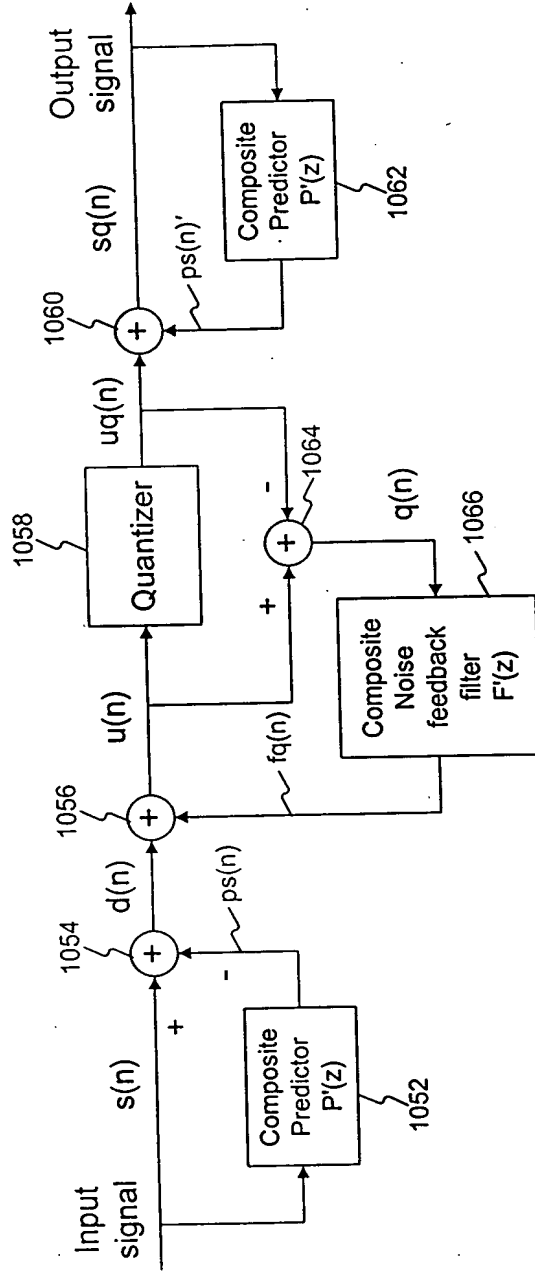


Figure 1A Noise Feedback Coding Using Composite Short-Term and Long-Term Predictors and Composite Short-Term and Long-Term Filter

2000

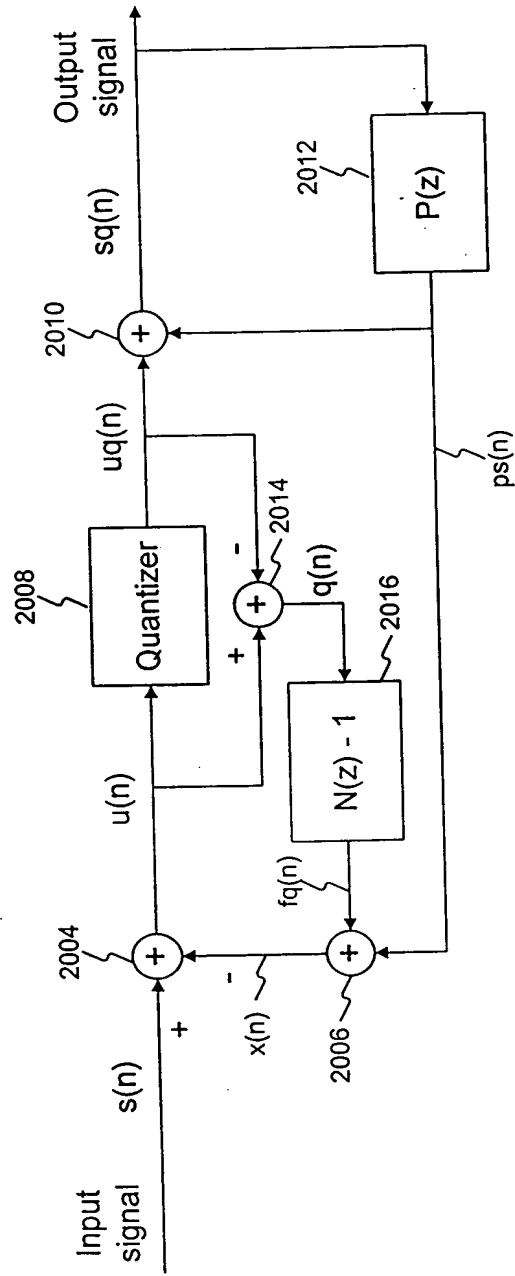


Figure 2 An alternative form of conventional Noise Feedback Coding

2050

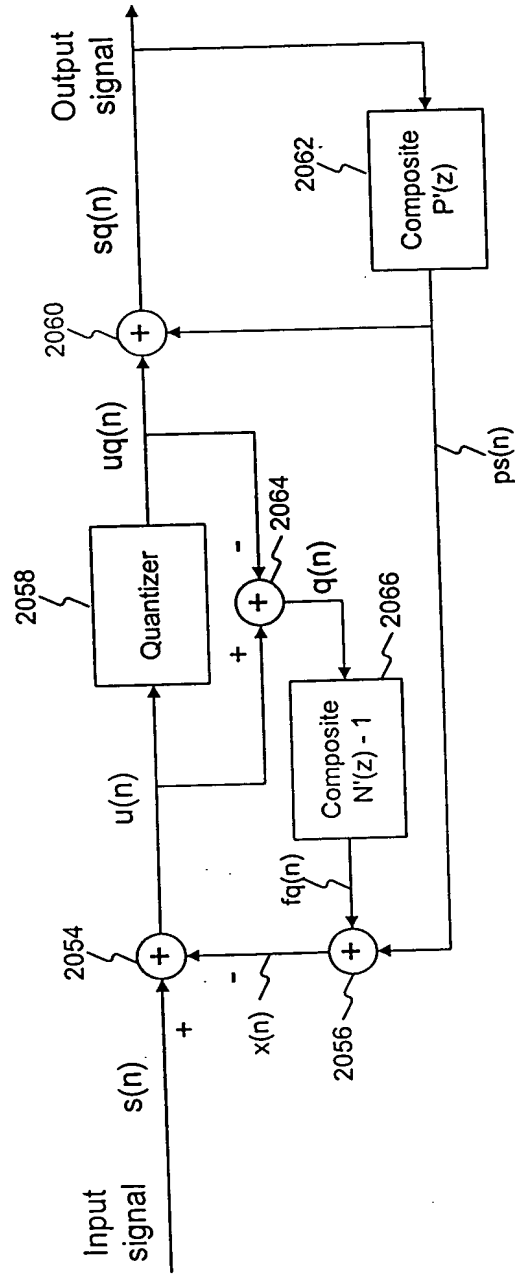


Figure 2A Noise Feedback Coding Using Composite Predictor and Composite Noise Filter

3000

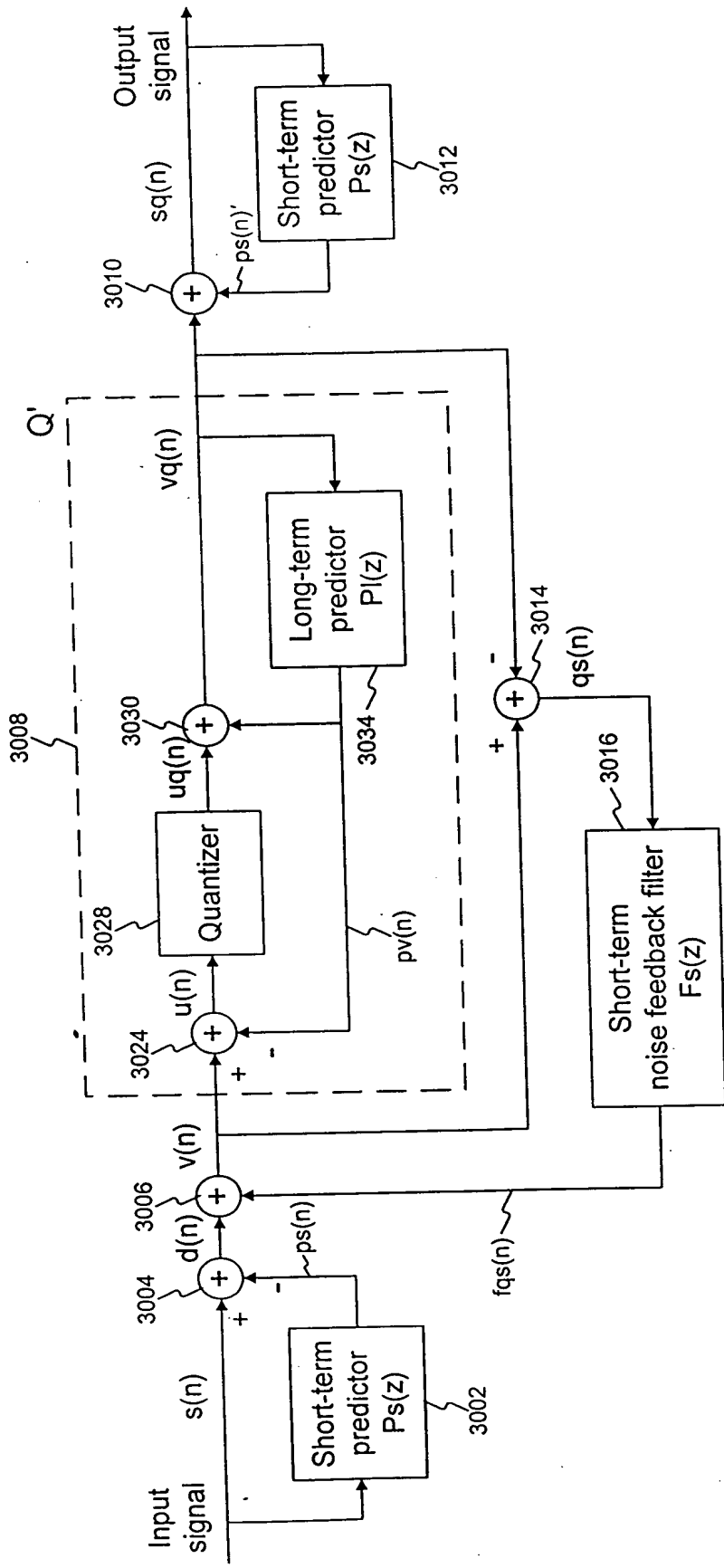


Figure 3 Noise Feedback Coding with short-term and long-term prediction but only short-term noise spectral shaping

4000

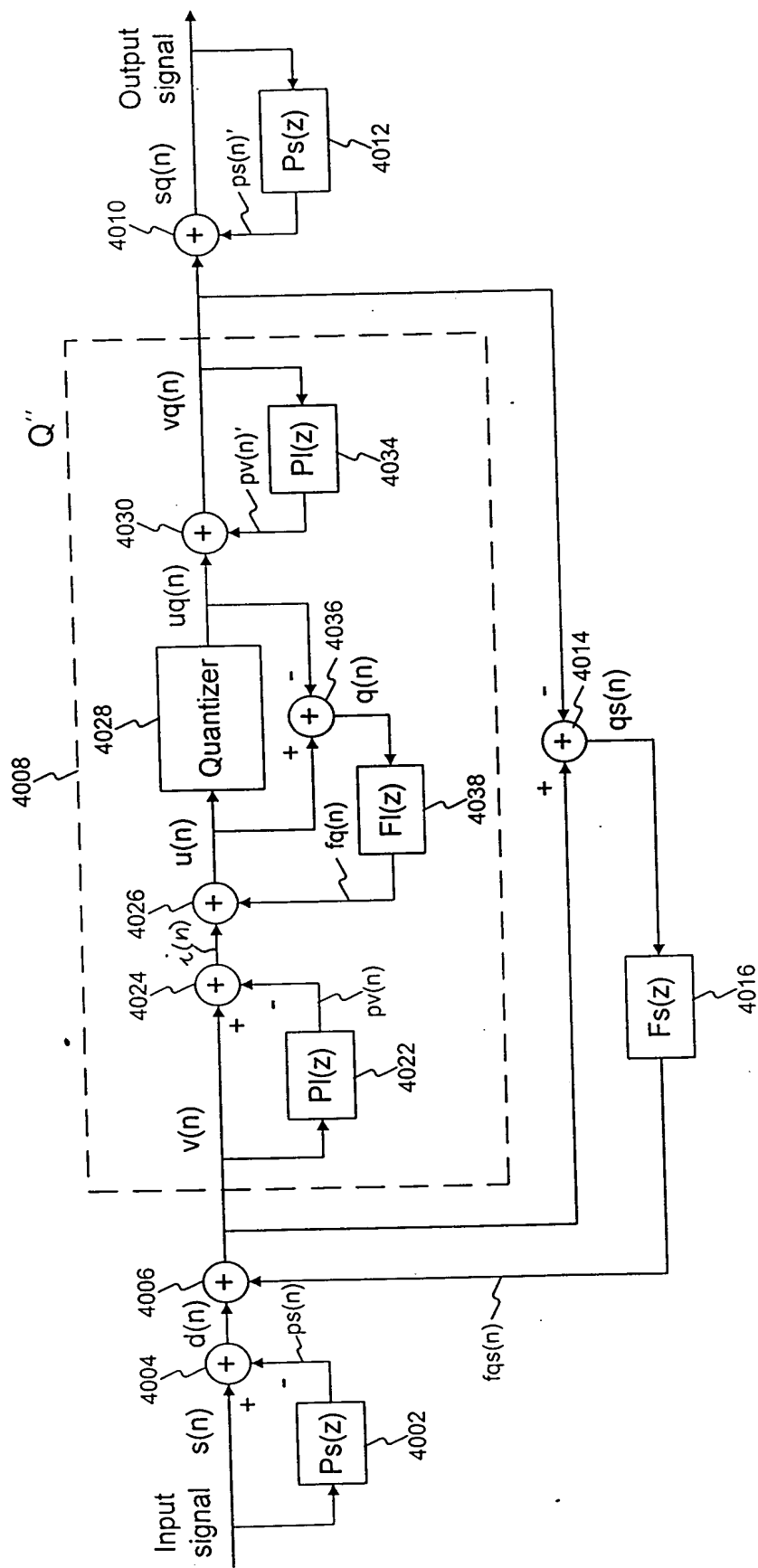


Figure 4 Nested two-stage Noise Feedback Coding structure with short-term and long-term prediction and short-term and long-term noise spectral shaping

5000

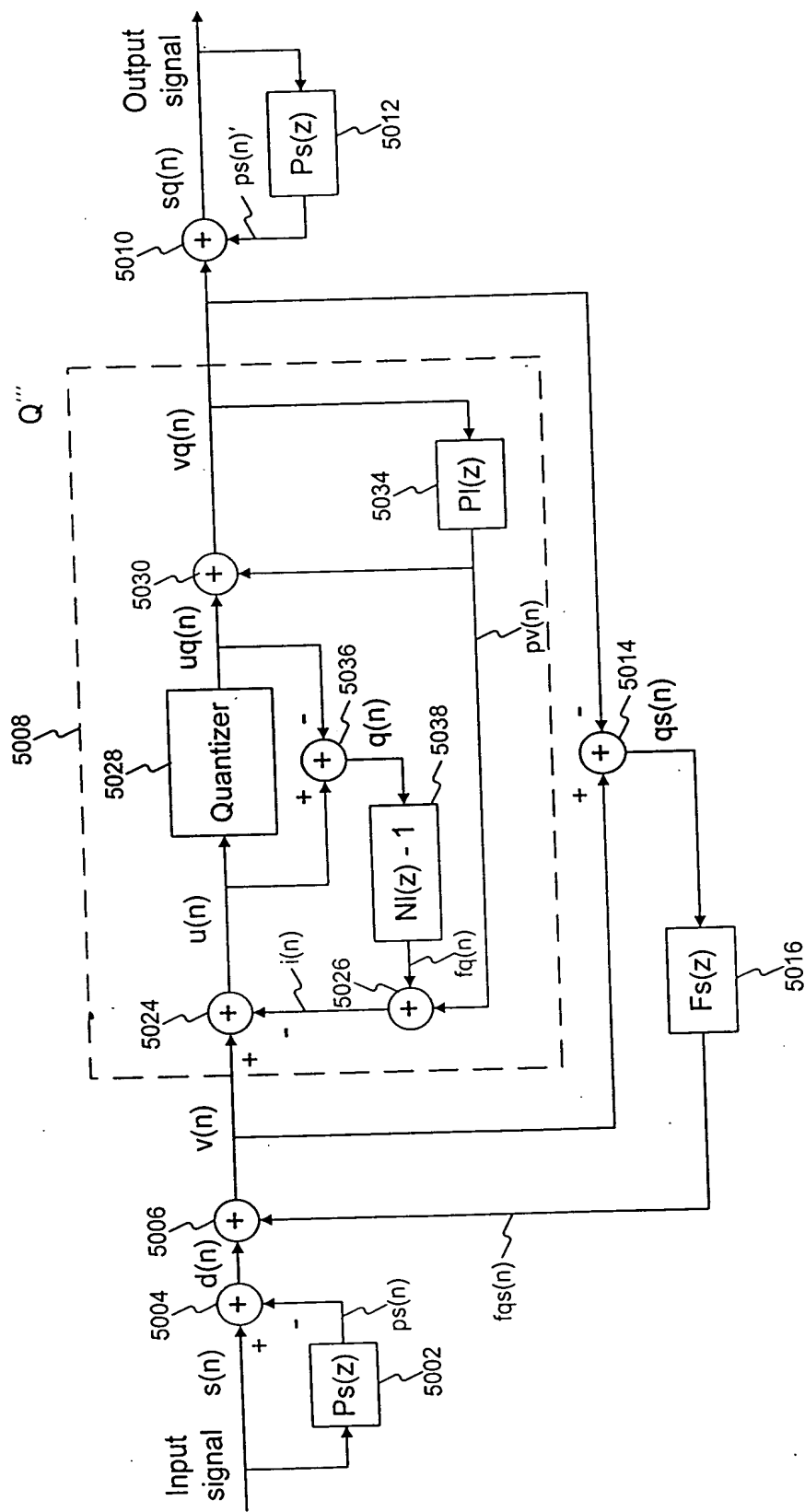


Figure 5 An alternative nested two-stage Noise Feedback Coding structure with short-term and long-term prediction and short-term and long-term noise spectral shaping

FIG. 5A

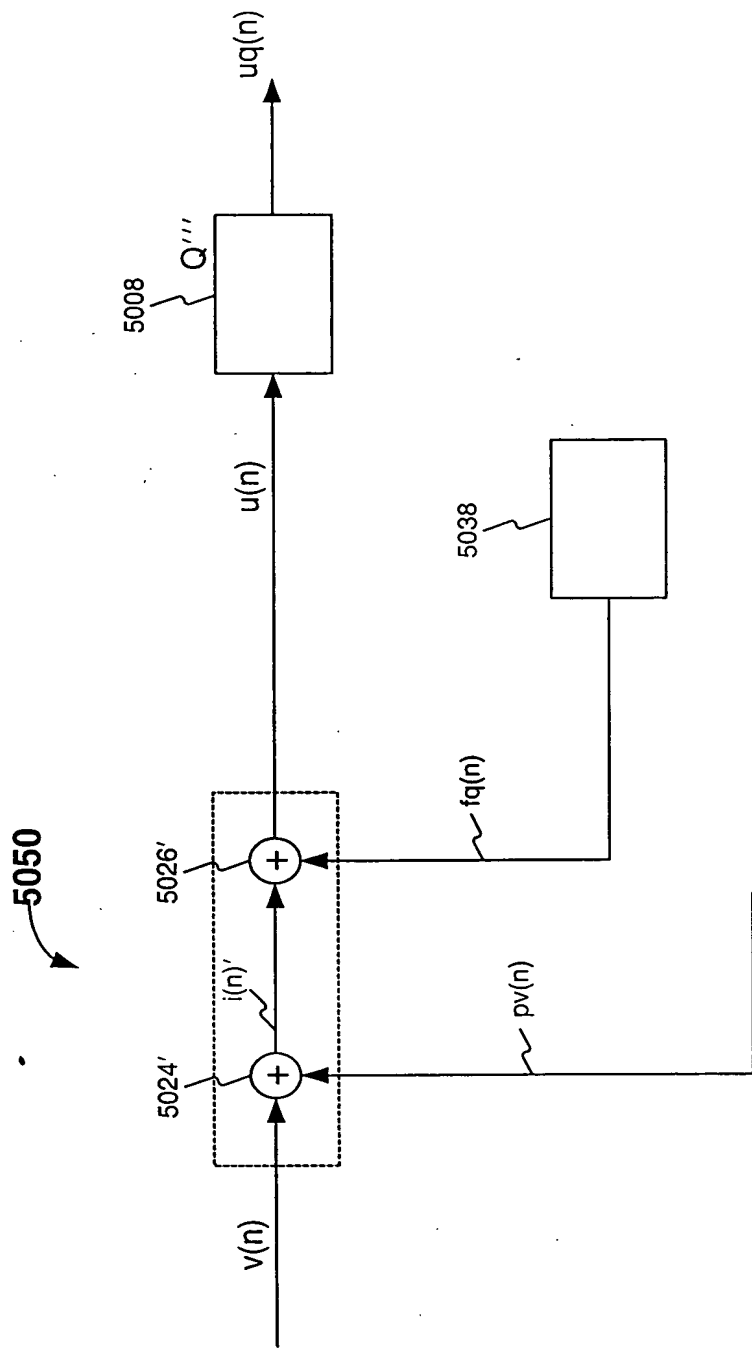


FIG. 5A

6000

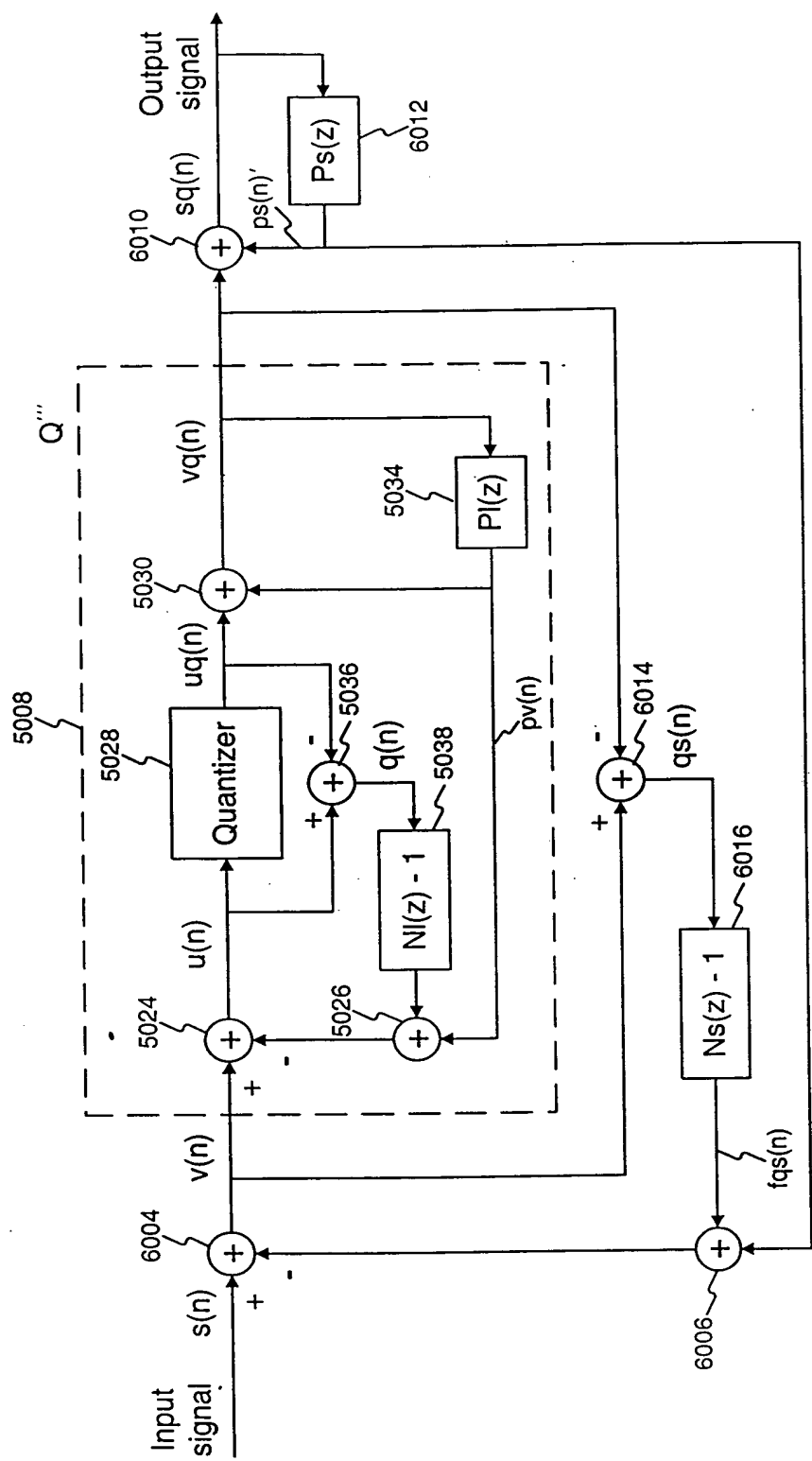


Figure 6 Another alternative nested two-stage Noise Feedback Coding structure with short-term and long-term prediction and short-term and long-term noise spectral shaping

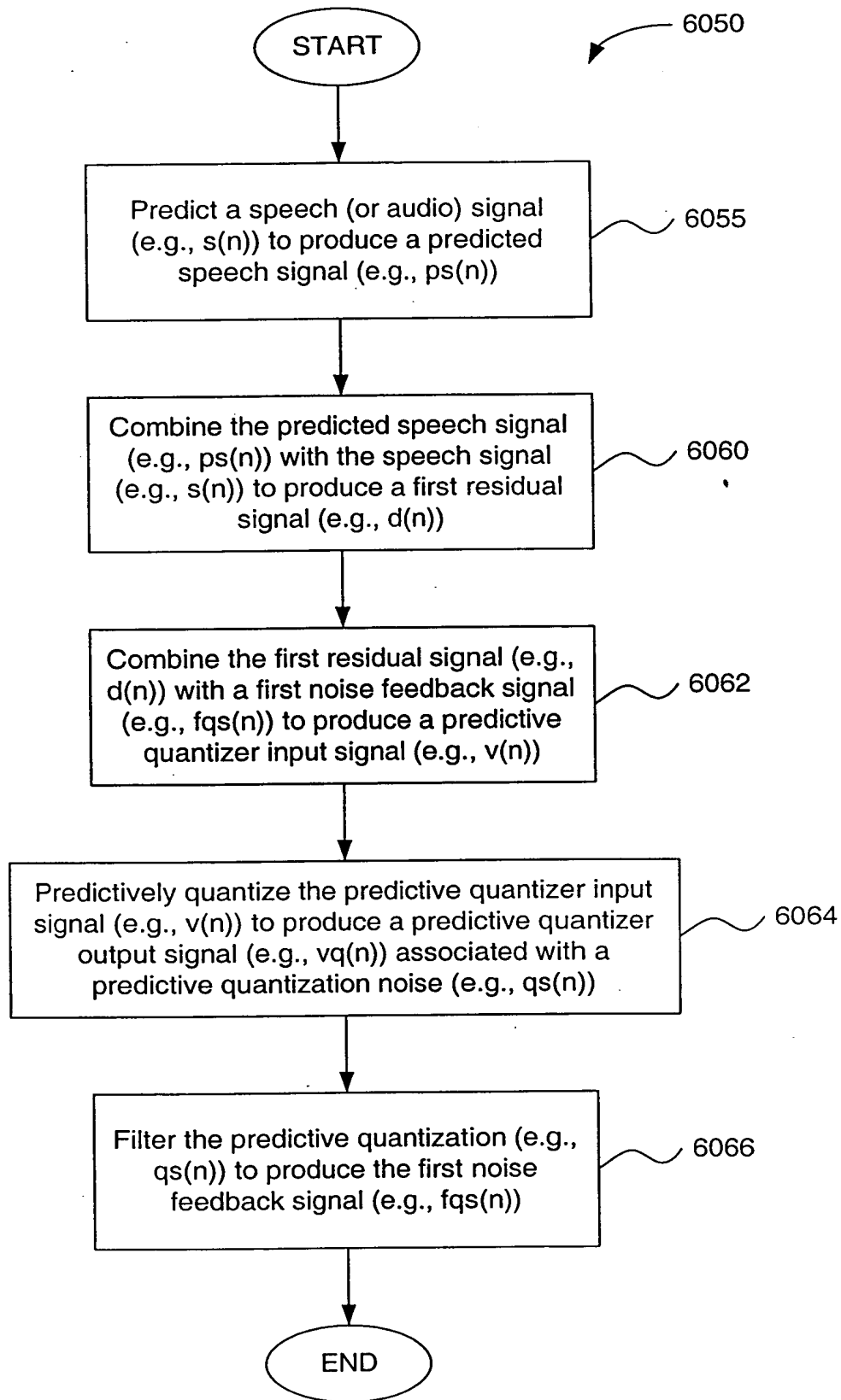


FIG. 6A

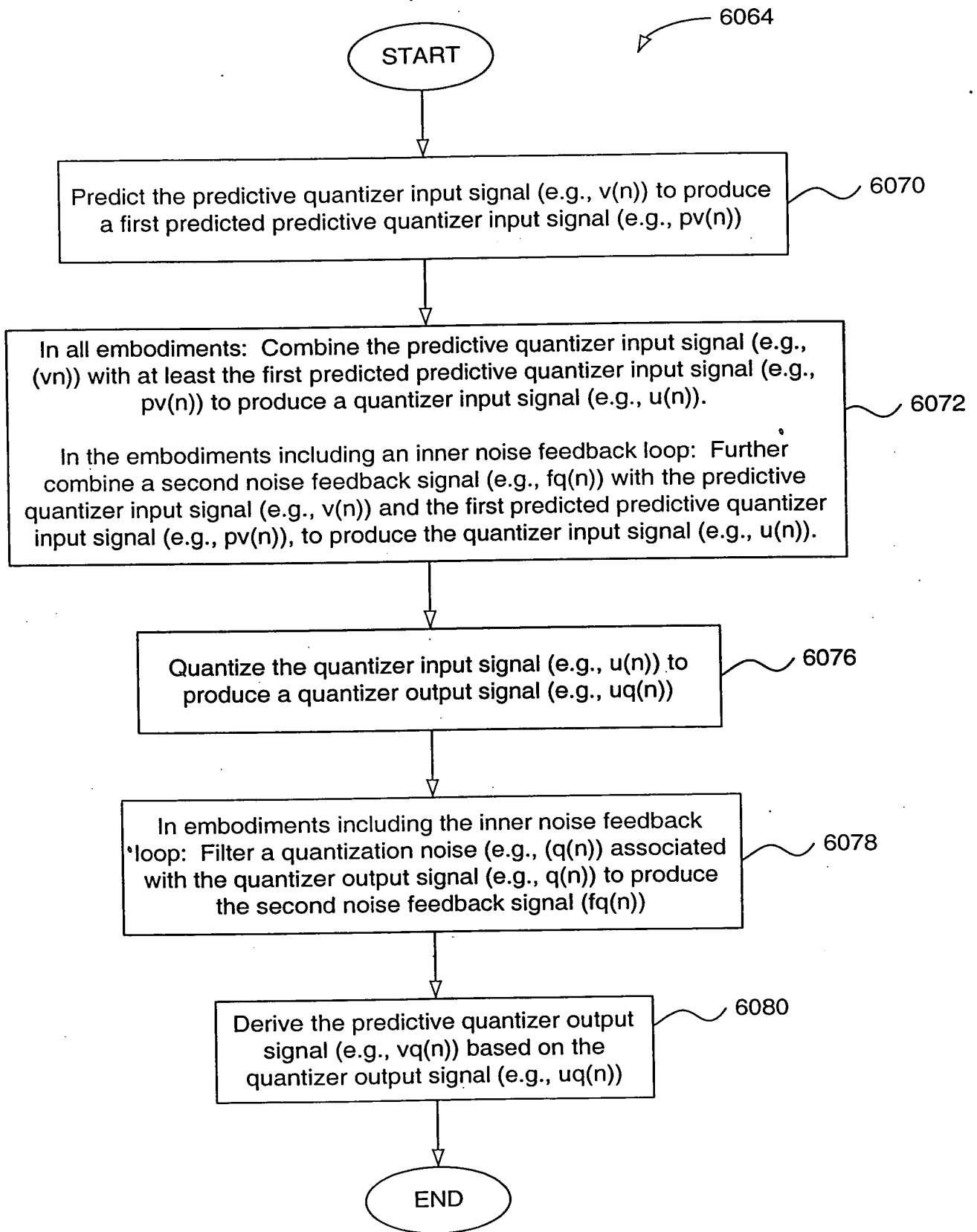


FIG. 6B

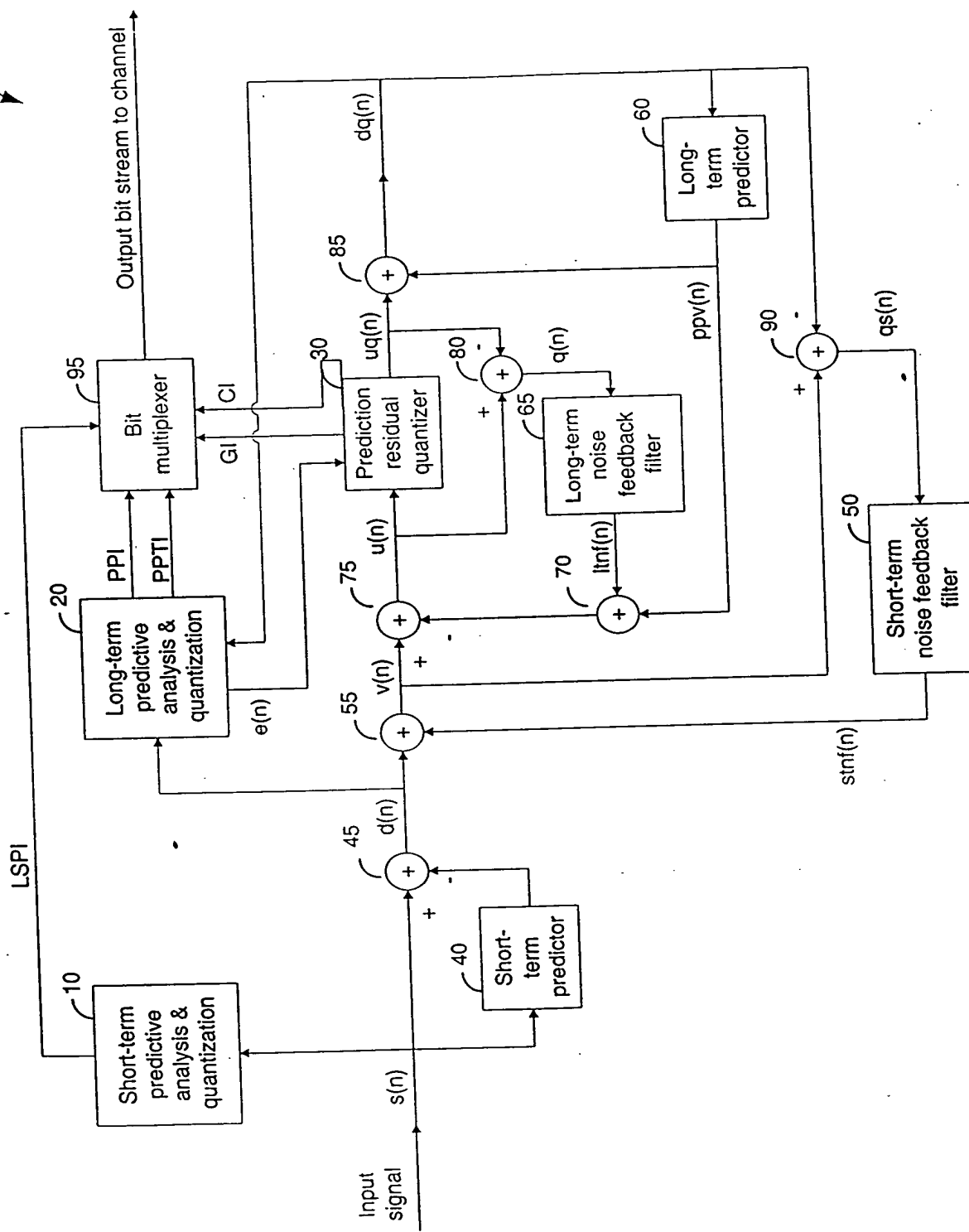


Figure 7 Encoder of a nested two-stage noise feedback codec (TSNFC)

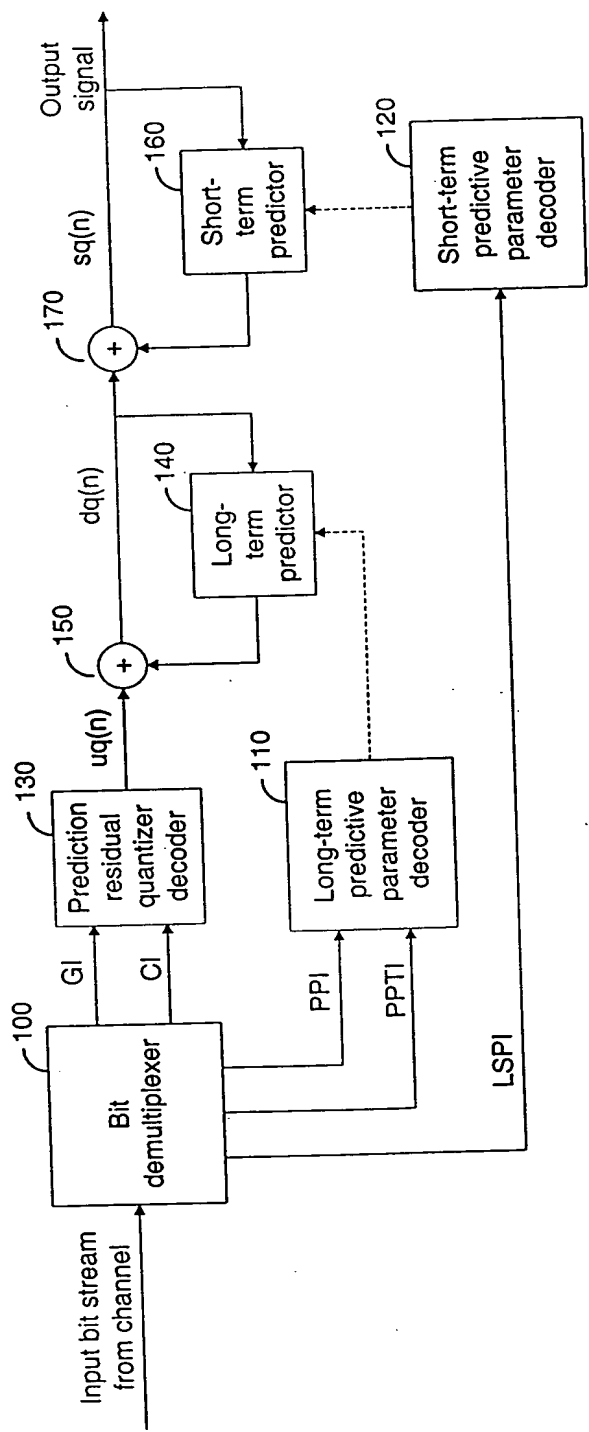


Figure 8 Decoder corresponding to the TSNFC encoder in Fig. 7

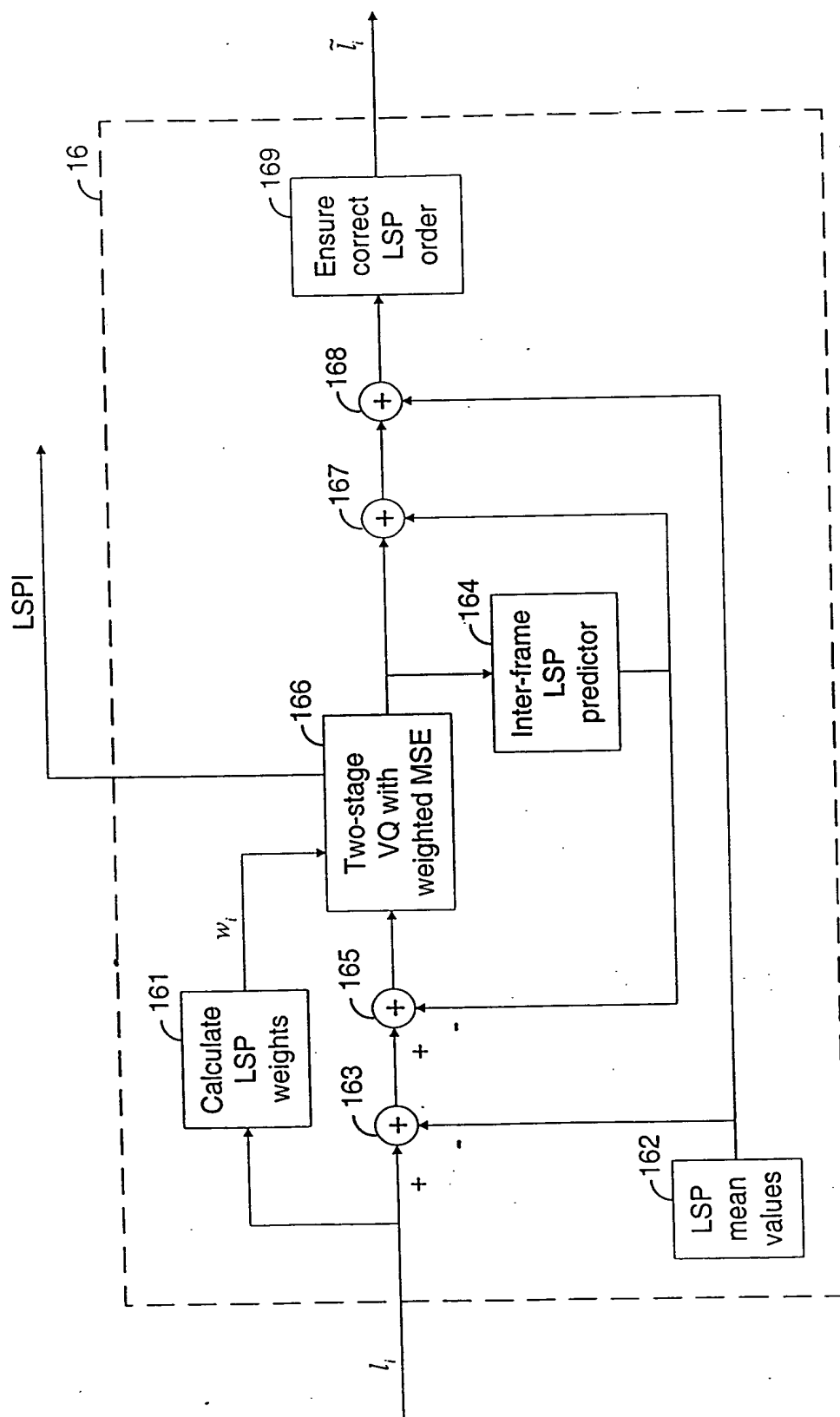


Figure 10 LSP quantizer (block 16)

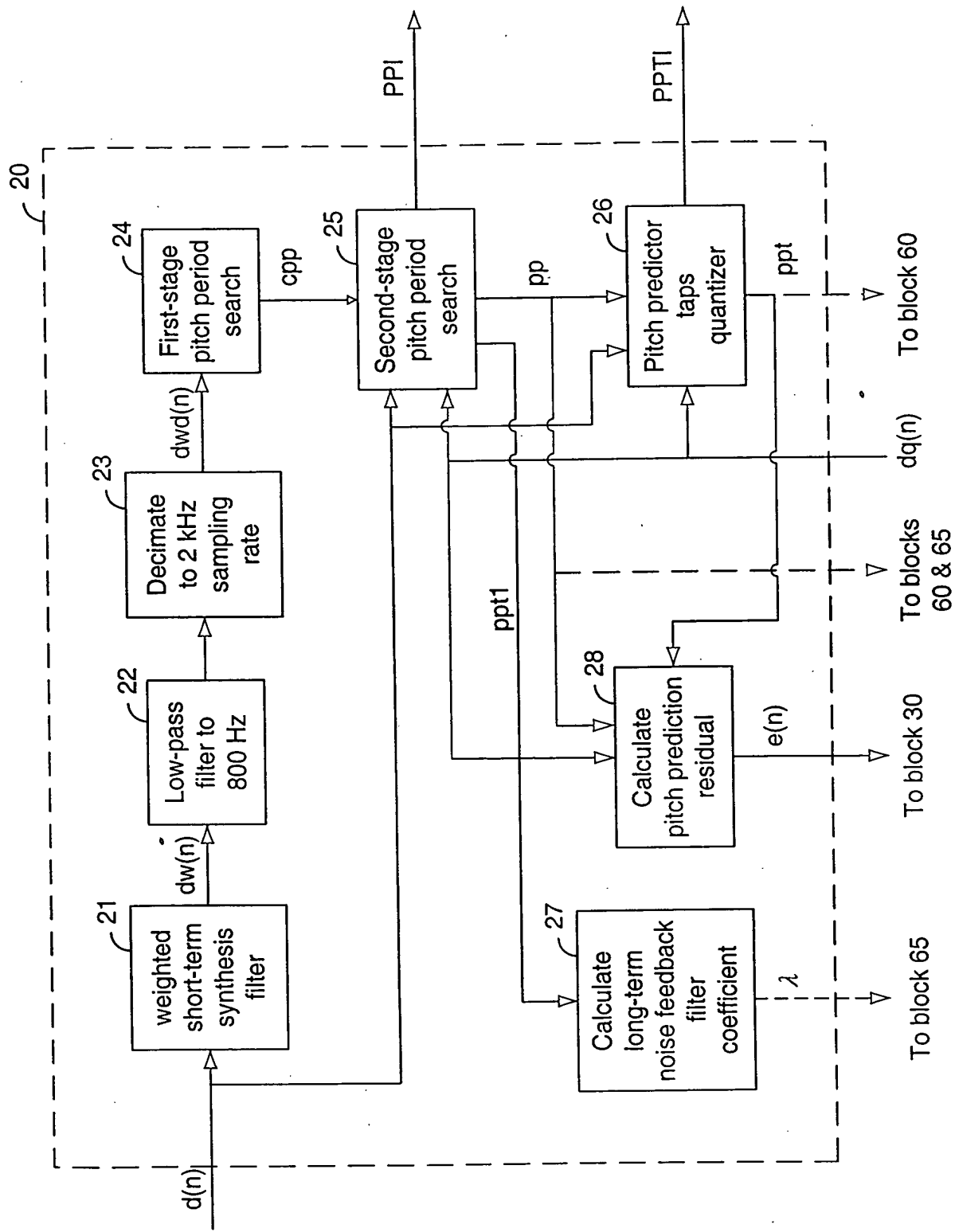


Figure 11 Long-term predictive analysis and quantization (block 20)

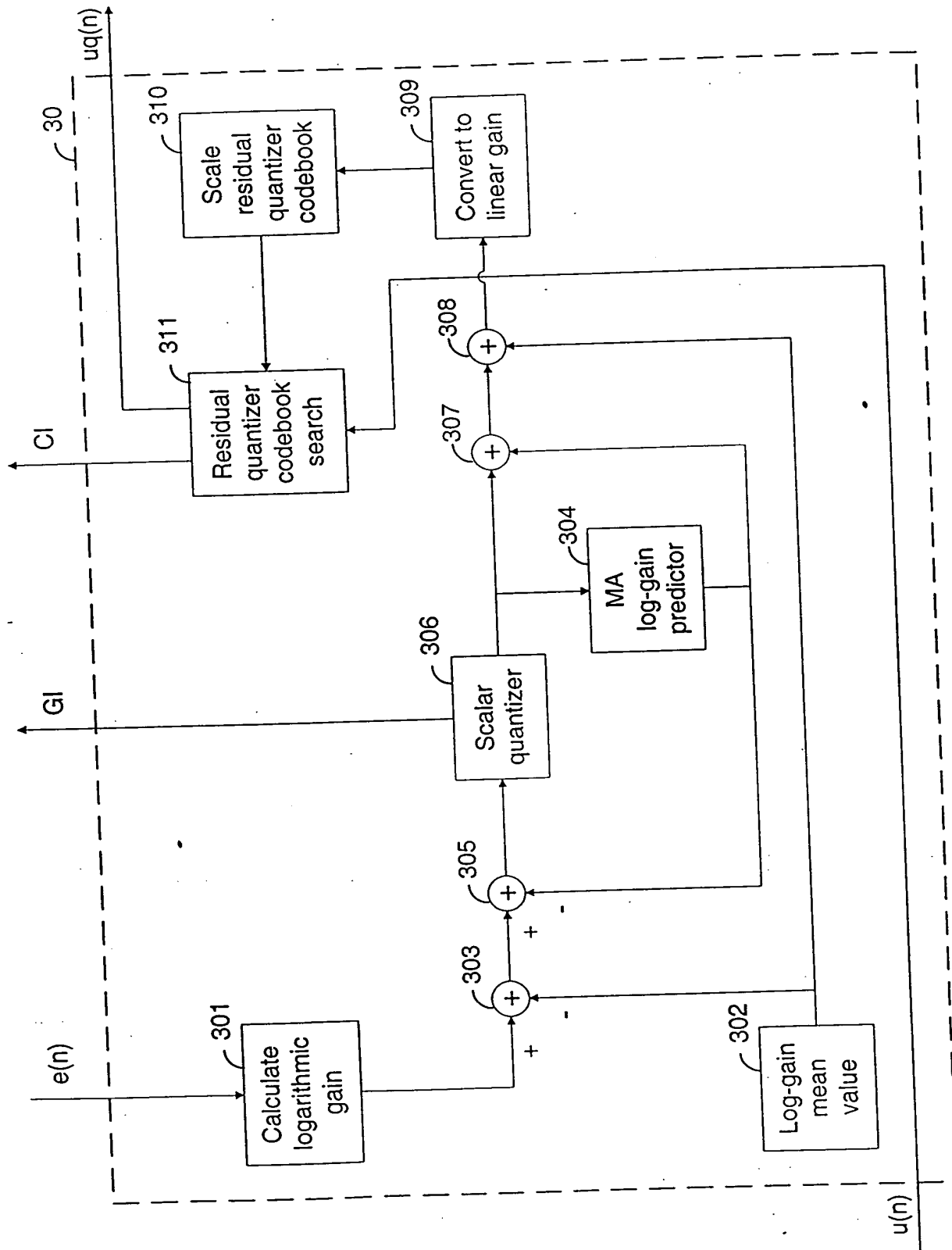


Figure 12 Prediction residual quantizer (block 30)

1300

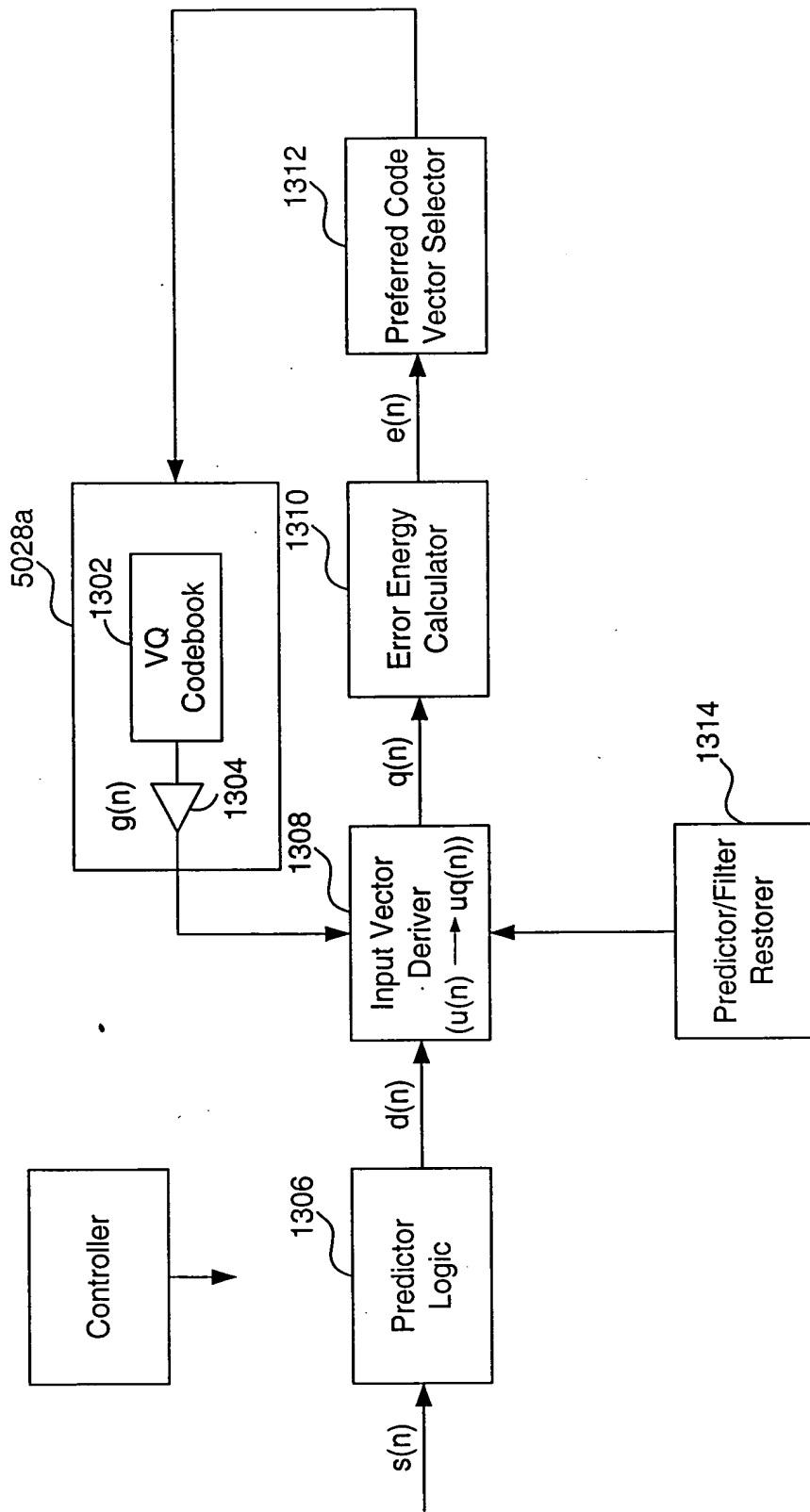


FIG. 13A

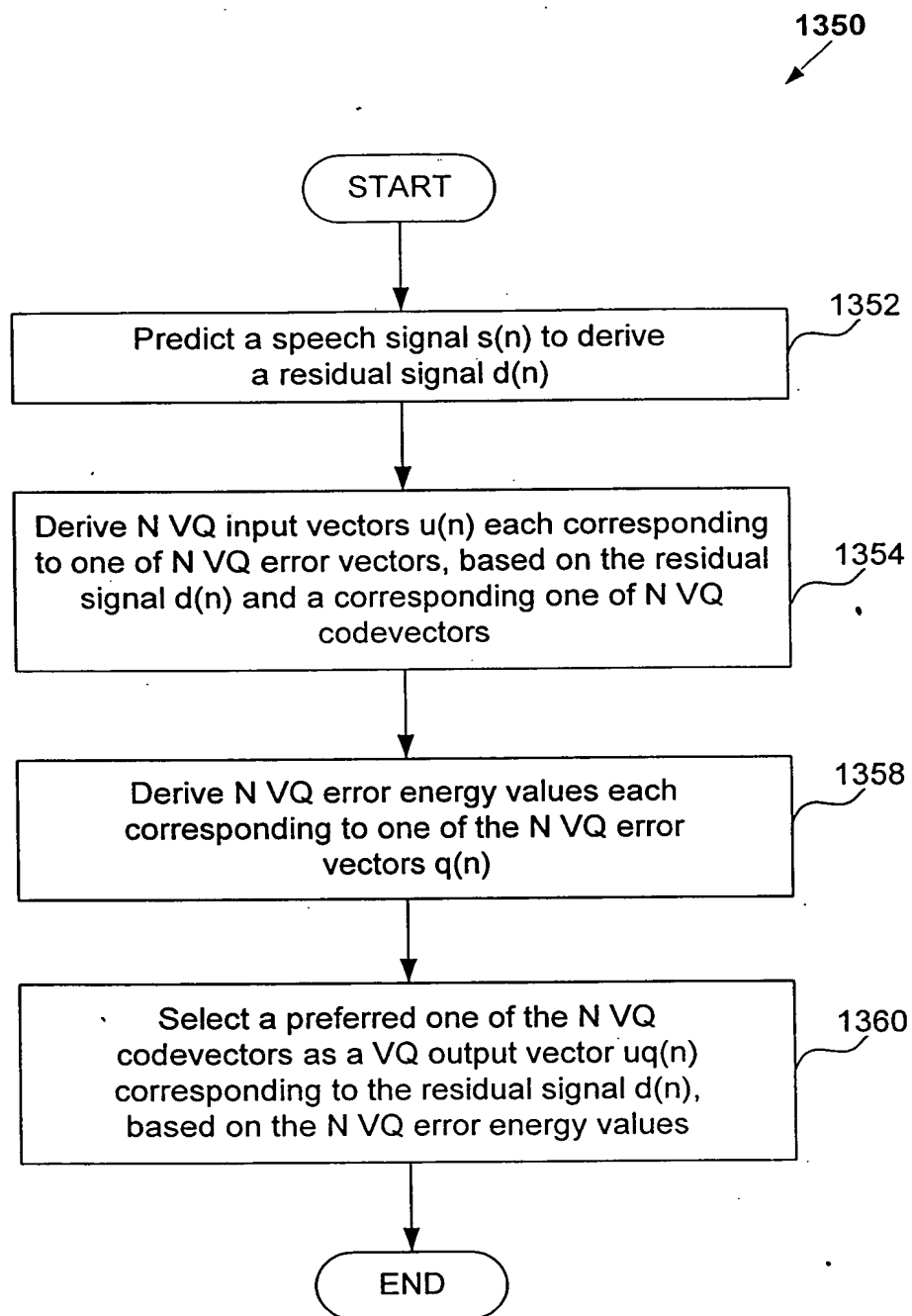


FIG. 13B

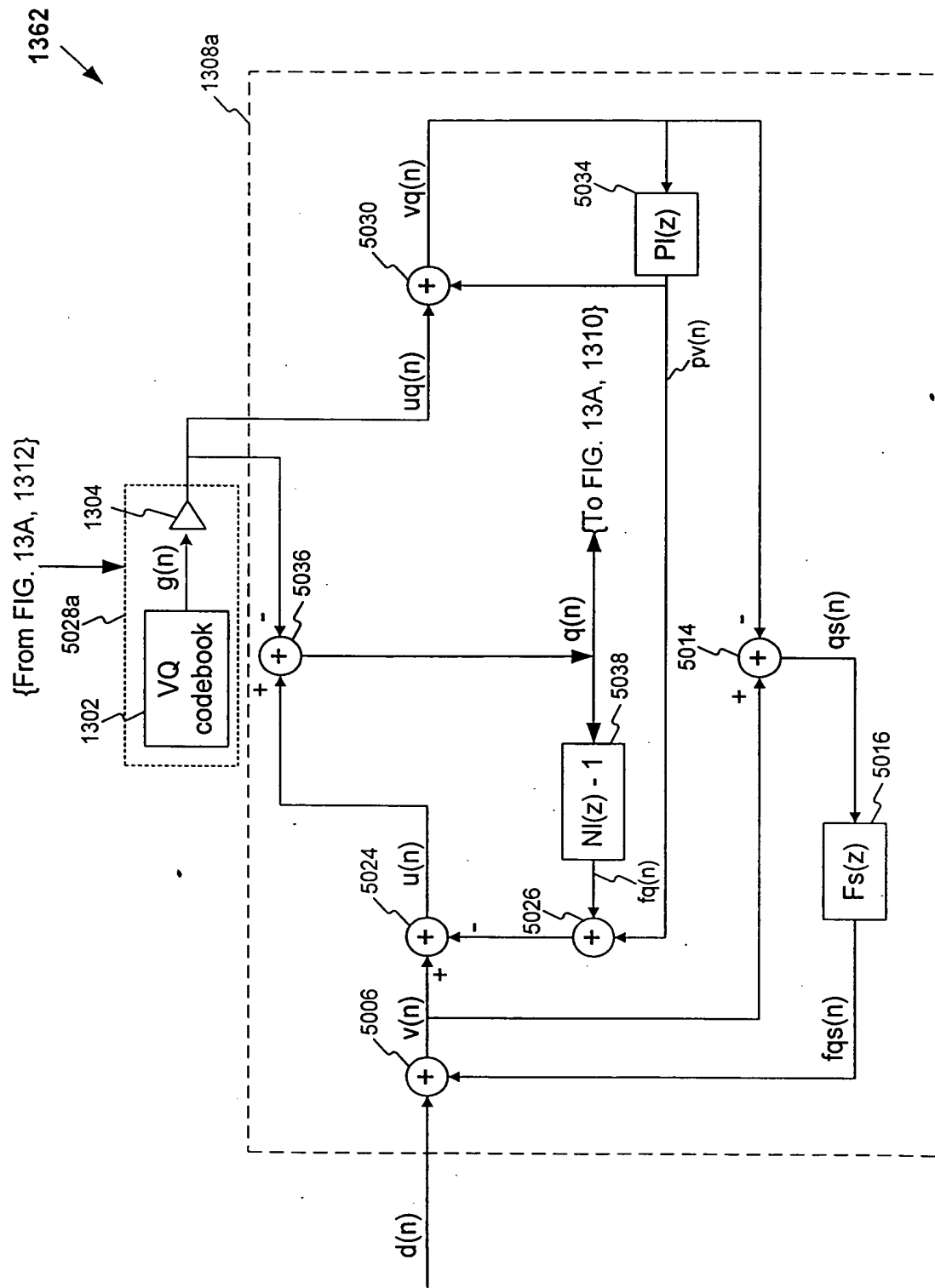


FIG. 13C

The portion of the codec structure that is used in prediction residual VQ codebook search of the two-stage noise feedback codec of Fig. 5.

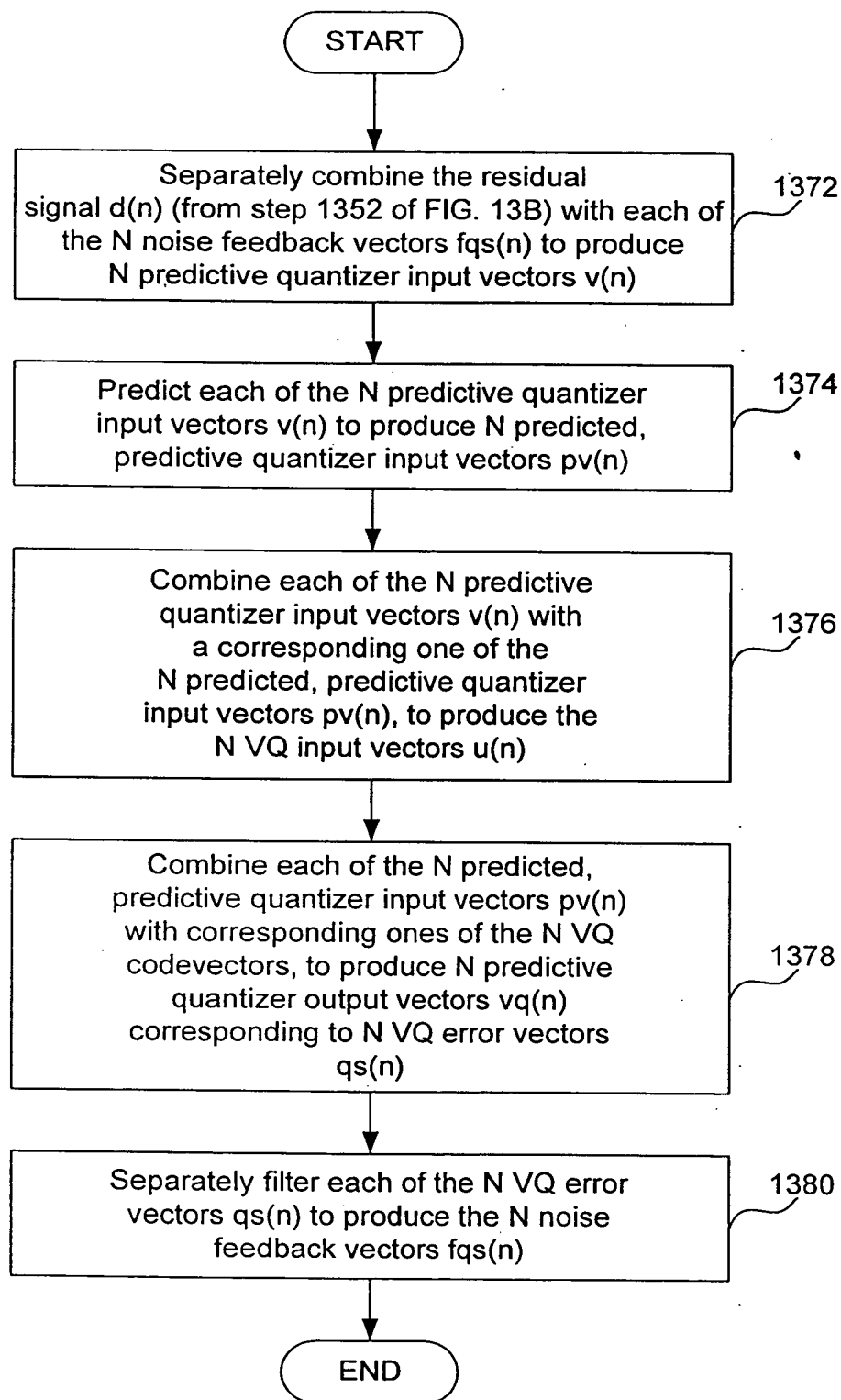


FIG. 13E

1400

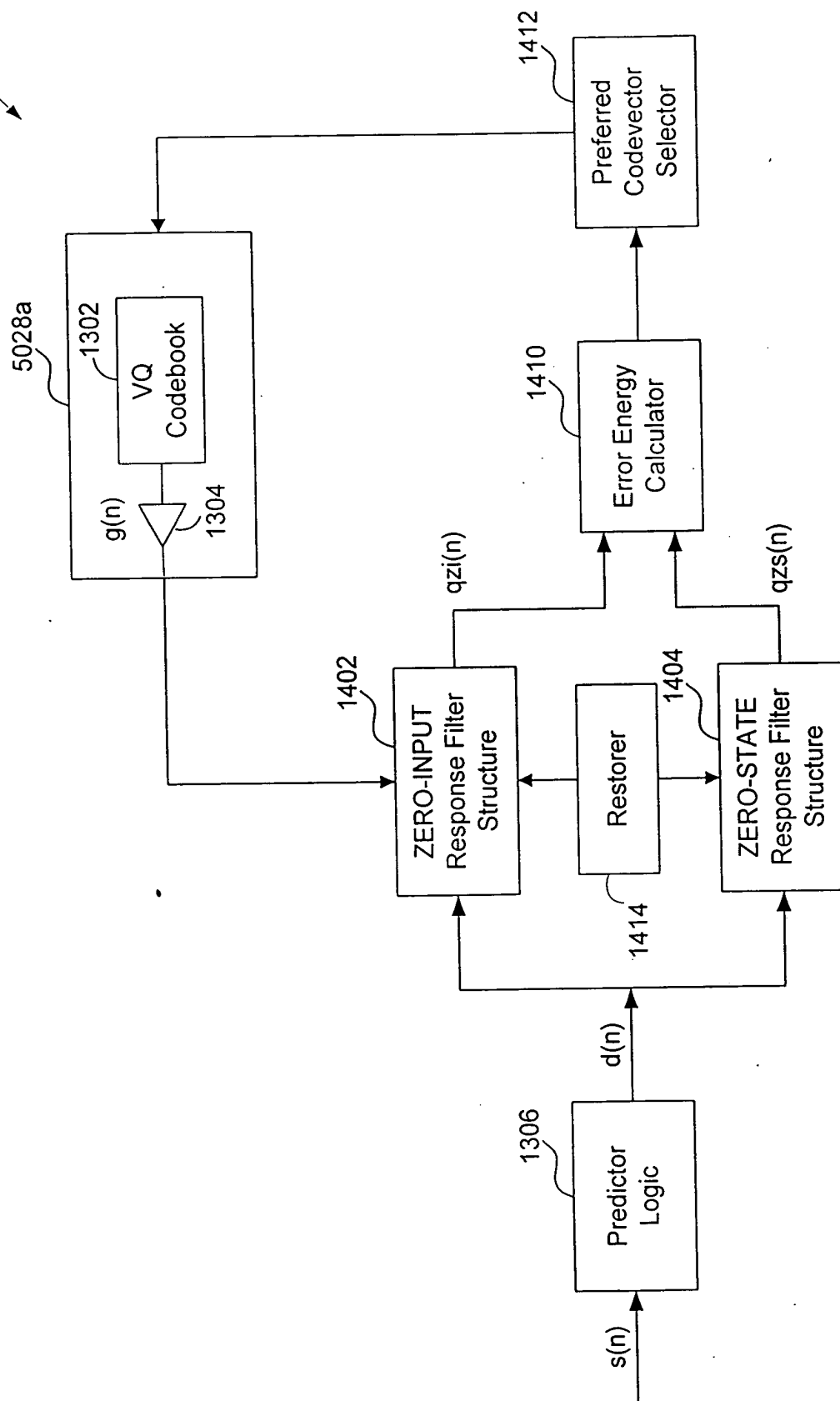


FIG. 14A

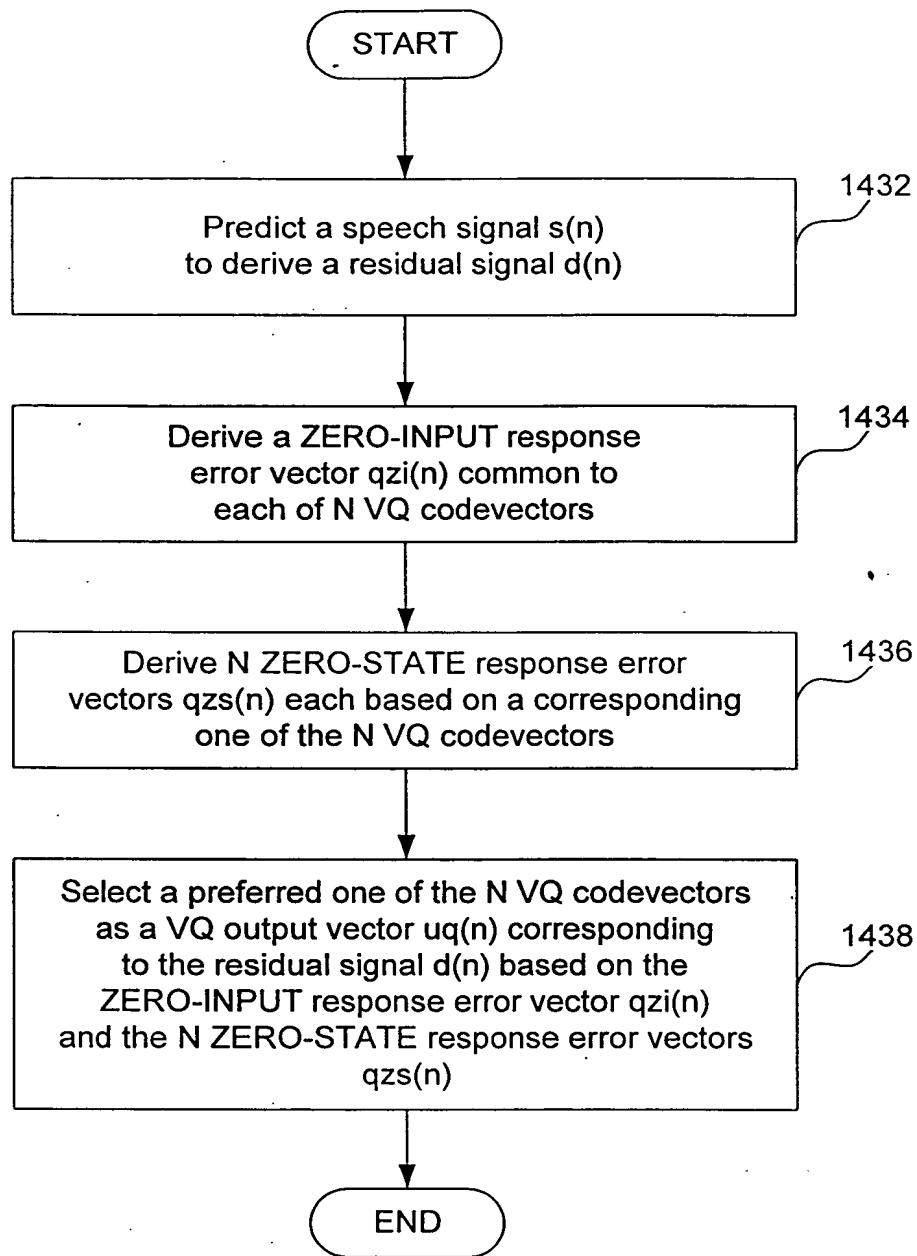
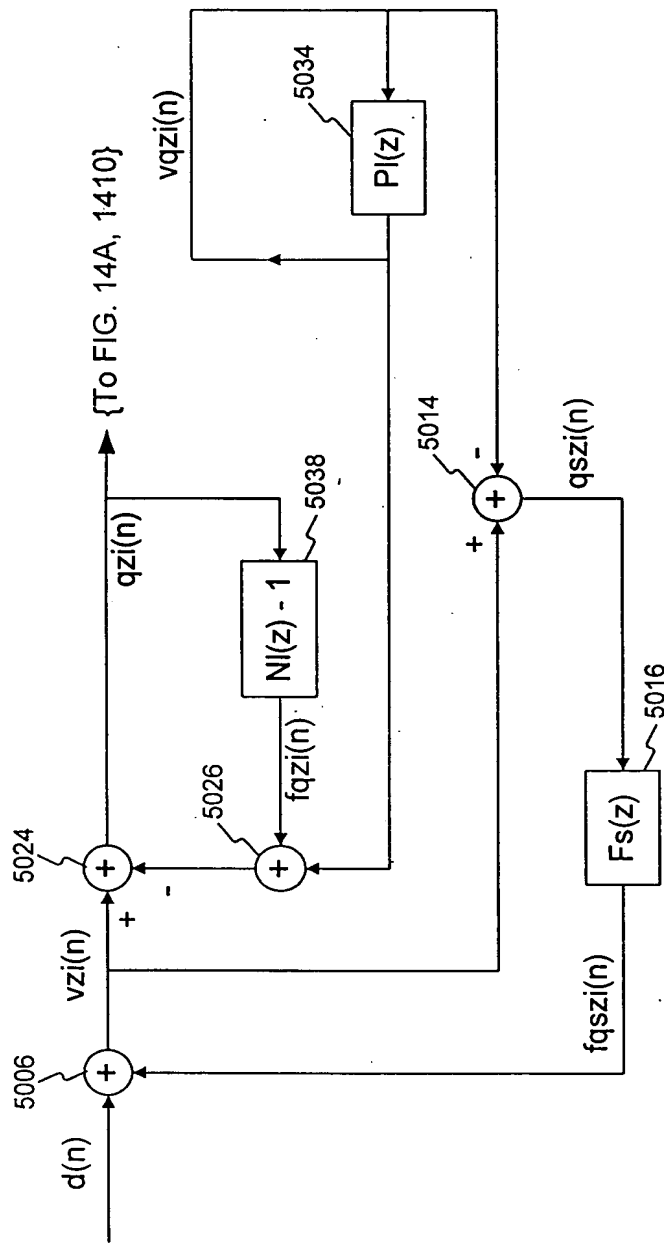


FIG. 14B

1402a



Filter structure during the calculation of the zero-input response of $q(n)$ of Fig. 13C.

FIG. 14C

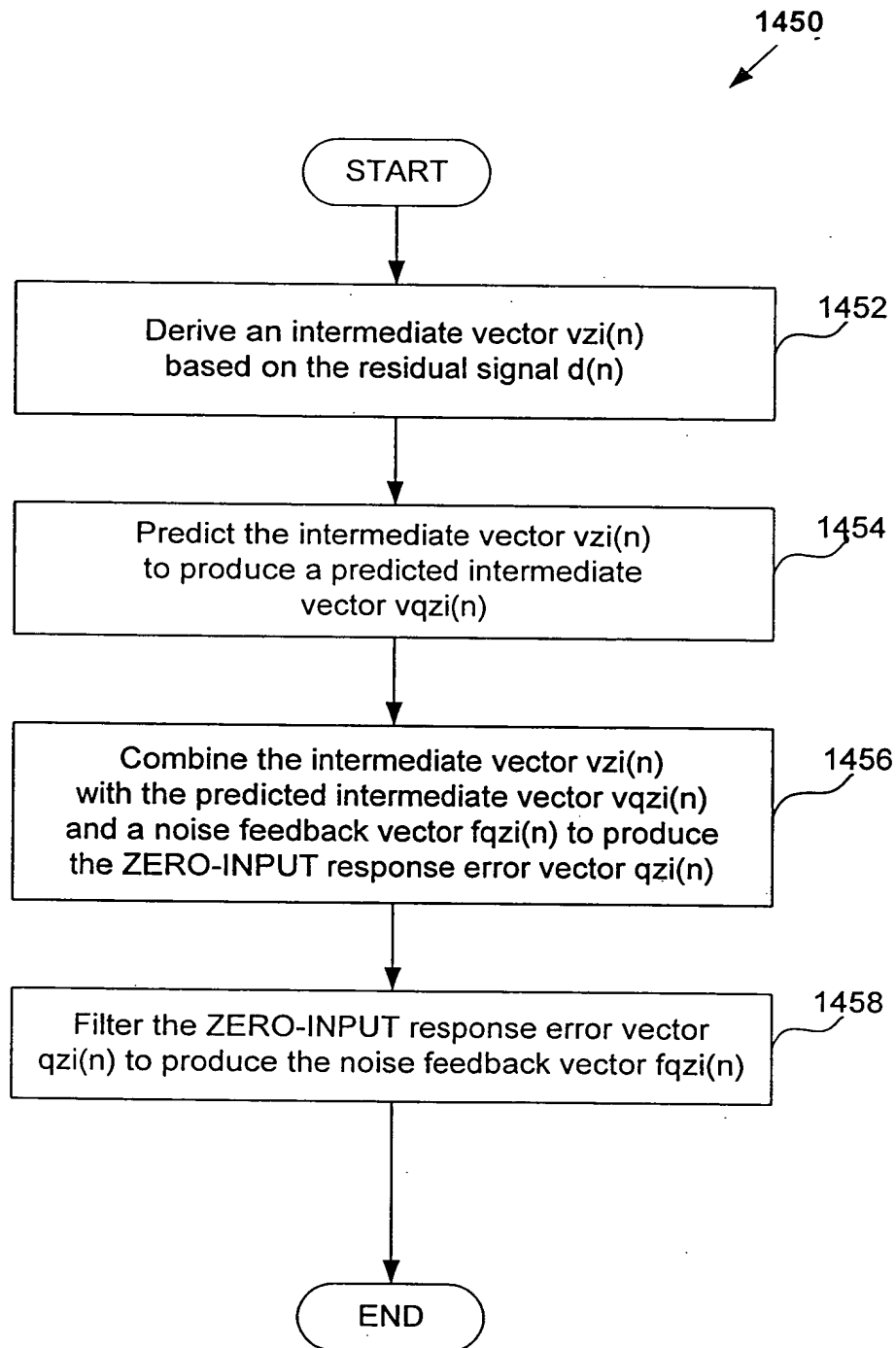


FIG. 14D

1470

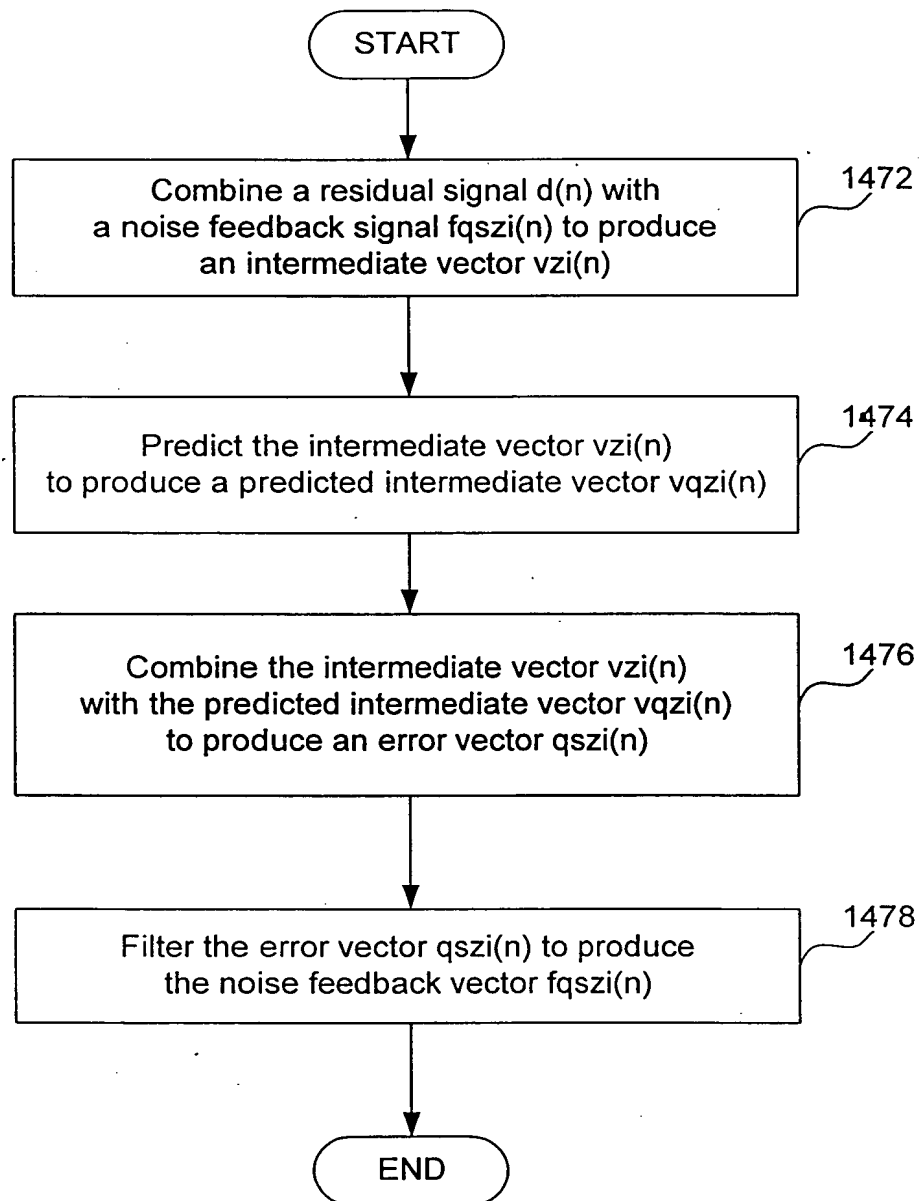


FIG. 14E

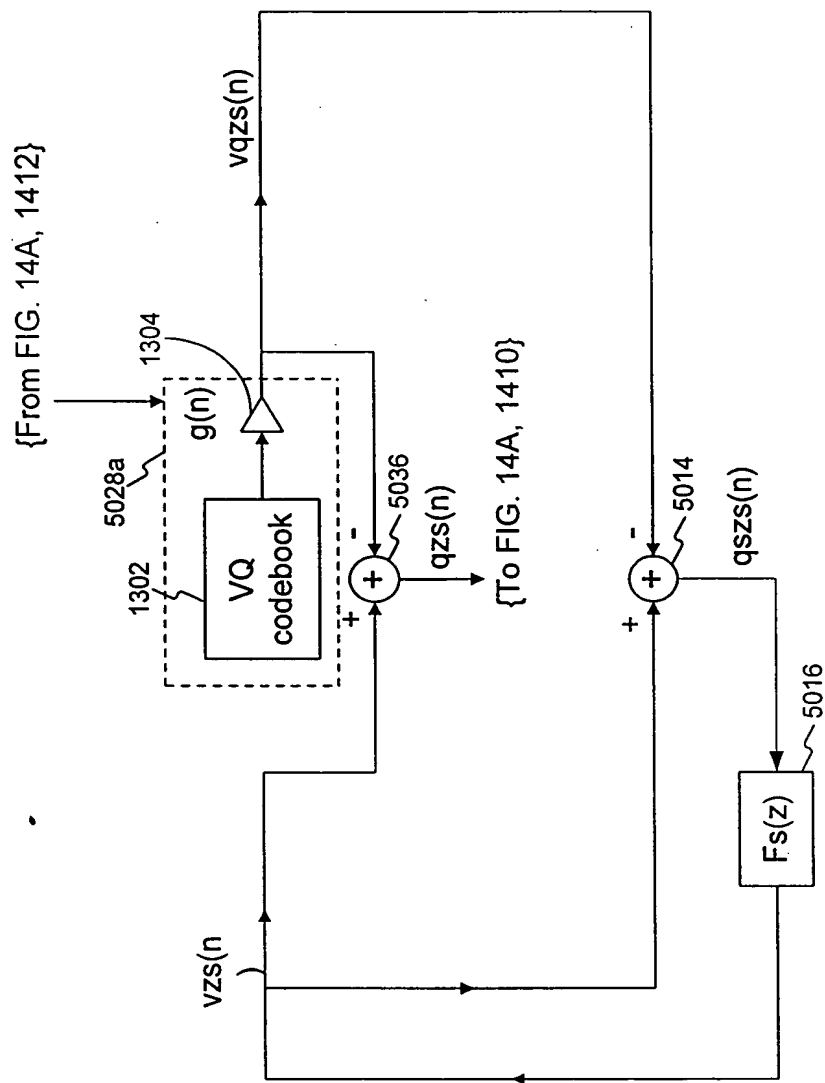


FIG. 15A

Filter structure during the calculation of the zero-state response of $q(n)$ in Fig. 13C.

1520

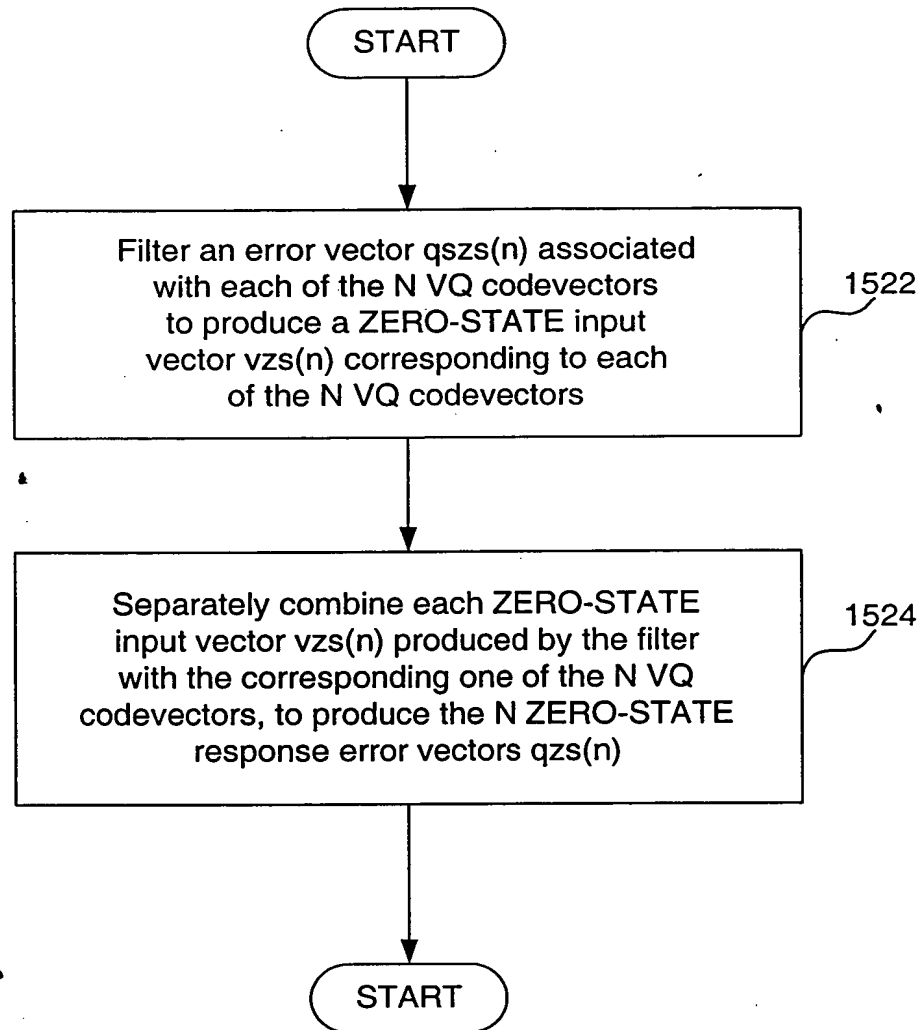
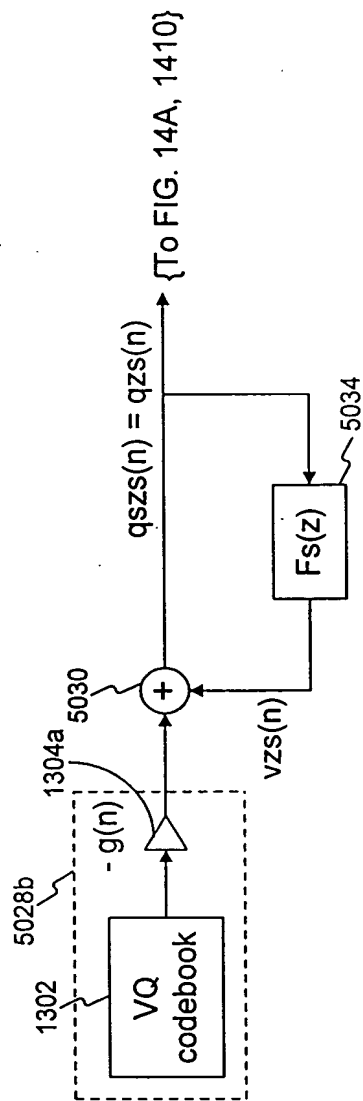


FIG. 15B

1404b



A filter structure equivalent to the structure in Fig. 15A.

FIG. 16A

1620

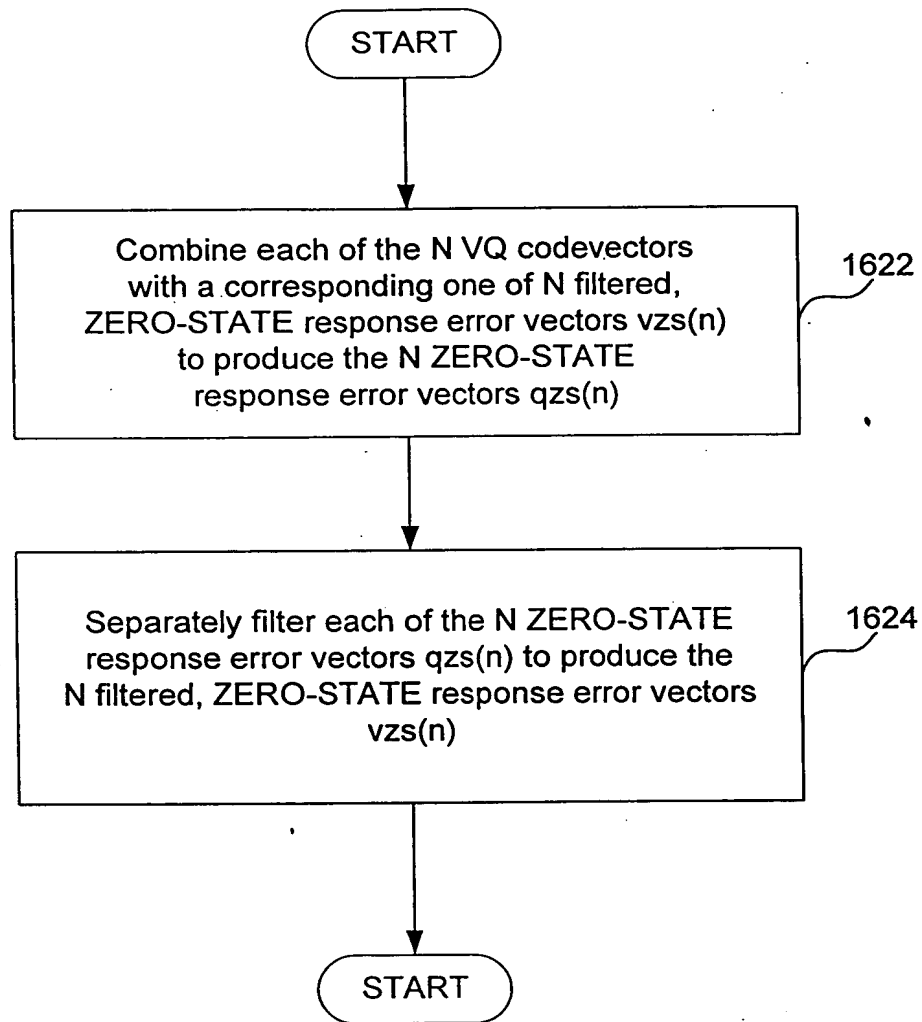


FIG. 16B

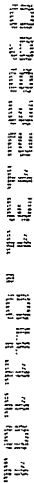


FIG. 17

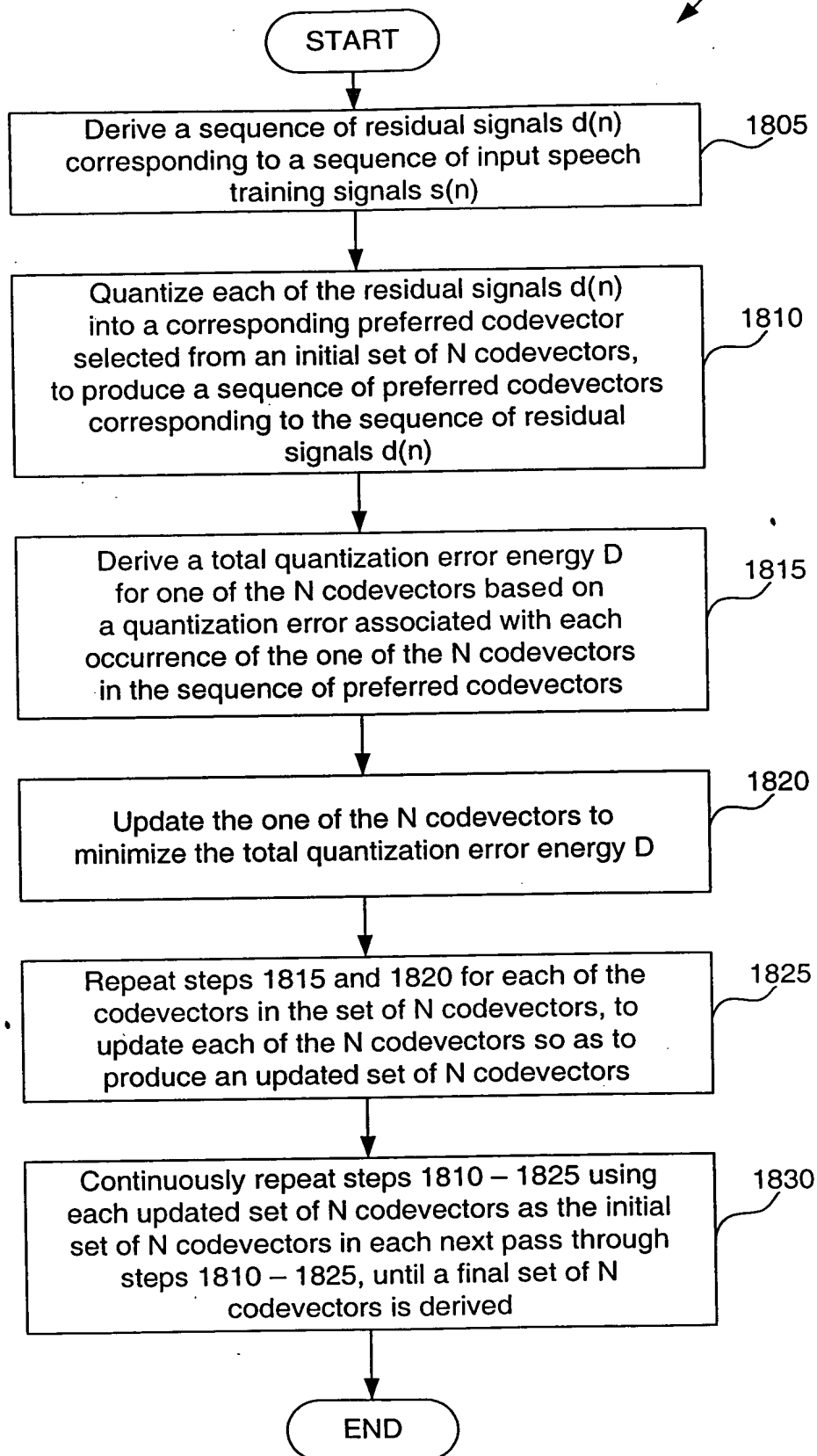


FIG. 18

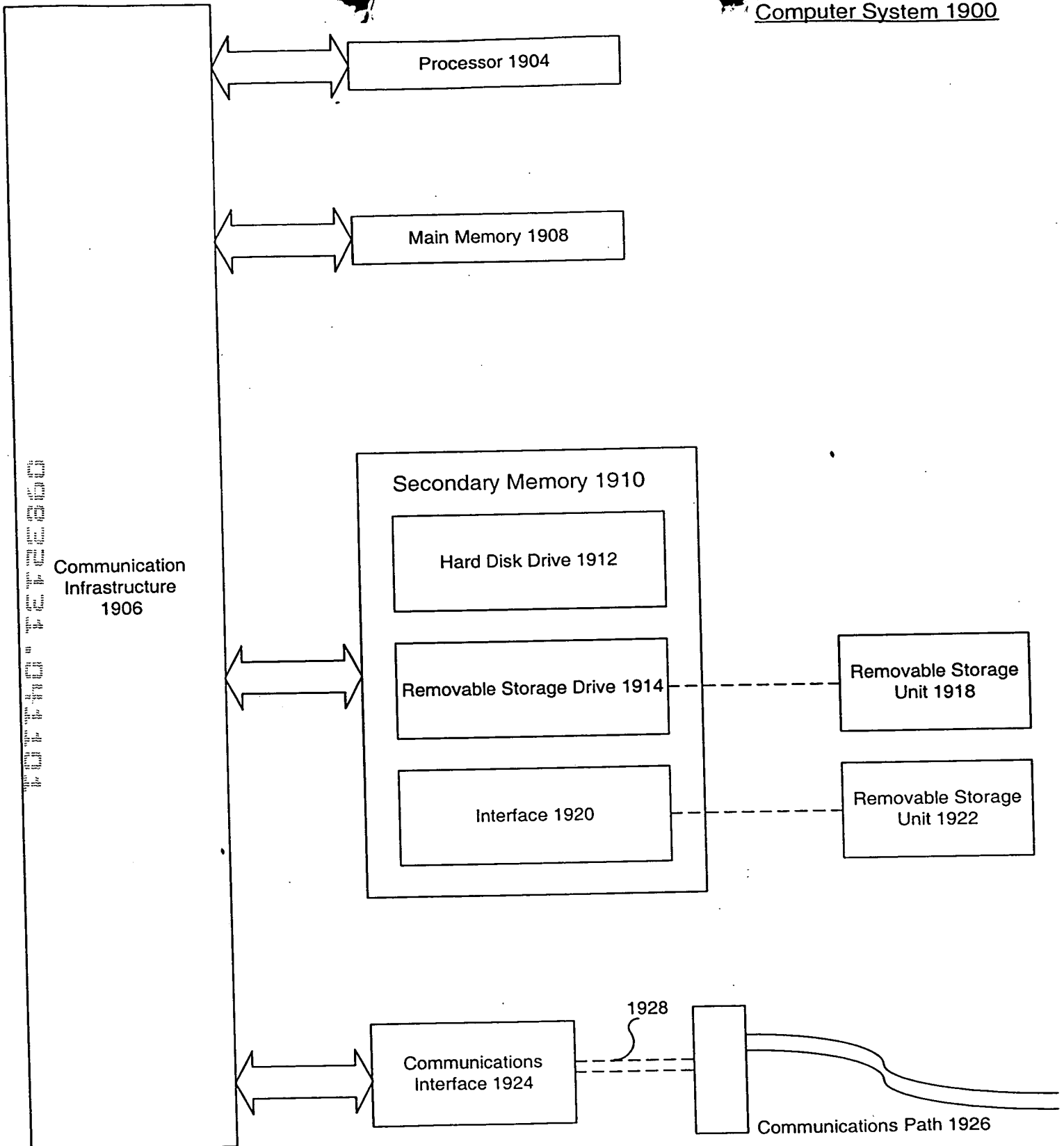


FIG. 19